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THE
ONTARIO WATER RESOURCES
COMMISSION

WATER POLLUTION SURVEY
OF THE

POLICE VILLAGE OF DUBLIN
COUNTY OF PERTH

1964

STANDARDS DEVELOPMENT BRANCH OMOE
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POLICE VILLAGE OF DUBLIN 1964
COUNTY OF PERTH

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Report on a water pollution
survey of the police village of
Dublin, county of Perth.

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R E P O R T

on

WATER POLLUTION SURVEY

of the

POLICE VILLAGE OF DUBLIN

COUNTY OF PERTH

Date of Sampling: - July 15, 1964

Division of Sanitary Engineering

R E P O R T

ONTARIO WATER RESOURCES COMMISSION

INTRODUCTION

The purpose of this survey was to determine the nature and extent of both industrial and domestic sources of pollution within the Police Village of Dublin. Such surveys are carried out routinely and upon request by the Division of Sanitary Engineering of the Ontario Water Resources Commission as a basis for evaluating water supply and sewage treatment requirements.

I GENERAL

The Police Village of Dublin is located south of Hwy. #8 in Township of Hibbert, County of Perth within the Bayfield River watershed. The population is listed in the 1964 Municipal Directory as 361. The economy is based around Export Packers poultry killing and local retail outlets.

Drainage for the village is achieved through municipal storm drains to the Liffy Ditch which constitutes a part of the upper reaches of the Bayfield River. Two storm drains, the Old and New Statton Award drains discharge to the Liffy Ditch, the newer drain having been completed earlier this spring.

II WATER USES

1. Water Supply

No municipal water system exists in the village. Individual

supplies are from drilled wells and in some cases service more than one building. The Export Packers water supply is also available to three households and one commercial establishment.

2. Industrial Supplies

As with residential supplies, industrial water requirements are provided by means of deep drilled wells. The Export Packers firm has a 208 foot deep well supplying up to 50,000 gallons daily. Frequent sampling indicates that the quality is satisfactory.

3. Recreational Uses

The use of any watercourse for recreation purposes is not of significance.

III WATER POLLUTION

1. Sanitary Waste Disposal

(a) Existing Conditions

In the absence of sanitary sewers, it should be expected that sanitary waste disposal consists of septic tank and/or cesspool disposal systems. No municipal records of private disposal facilities exist and no inspection service is available for new installations.

From the adverse laboratory results obtained on samples taken from storm drains, and from the nature of discharges observed in said drains, it is obvious that sewage is reaching the storm sewers in considerable quantity.

A substantial portion of this sewage emanates from the

operations of **Export** Packers as will be noted later. However, there is no question that domestic sewage is also reaching the storm drains and, eventually, the Liffy Ditch. Since the ditch receives little maintenance, obstructions are numerous and, as a result, little flow throughout is in evidence.

2. Refuse Disposal

The village provides a dump site located in the Township of Hibbert several miles south of the municipality. Refuse pick up on an irregular basis, i.e. two or three times yearly, is also provided. Residents are generally left to dispose of refuse on their own. Little, if any, refuse was noted in the Liffy Drain.

3. Industrial Waste Disposal

(a) Export Packers - (Dublin Creamery and Poultry Packers)

This firm employs 45-50 persons and is engaged in killing and packing of poultry. While production figures were not made available, a volume of 50,000 gallons of water per day - for a four day week - is reportedly being used.

The firm discharges its wastes to a five-acre single cell lagoon, east of the village and has plans to construct a second five-acre cell in the next few months.

The forcemain to the lagoon is designed to accomodate an excess in the lagoon by draining same back to an outlet at the Liffy Ditch. A persistent problem with a leak in the lagoon has resulted in lagoon effluent flowing continuously via a field tile drain to the

old municipal storm drain, thence to the Liffy Ditch. Future plans are for discharge from the second cell to the New Award Drain.

(b) Friend & Wetham Slaughterhouse

Wastes from this firm are disposed of through a septic tank and tile disposal bed. No significant pollution problems are presented by these wastes.

4. Discussion of Sample Analyses

Samples for sanitary chemical and bacteriological analyses were taken at various points along the Liffy Ditch. The results of these analyses are part of this report. A brief description of the significance of these analyses is included below.

(a) 5-Day BOD

The biochemical oxygen demand is an indication of the amount of oxygen required for stabilization of decomposable organic matter. A desirable upper limit in natural water is four parts per million. Adequate protection for these waters can generally be assured provided a maximum of 15 parts per million is not exceeded in waste discharges.

(b) Total Coliform Count

The coliform count is reported per 100 millilitres and indicates bacteriological contamination by human or animal excrement. A membrane filter (MF) count of less than 2400 organisms is considered desirable in natural waters or streams.

5. Summary of Sample Results

(a) Chemical Analyses

The chemical analyses performed on the samples show that whereas the ditch at the north end of the village is substandard in quality, discharges at points 2, 5 and 6 result in further degradation of the watercourse at the south end of the village. The results indicate that raw and/or partially treated sewage is being discharged to the Liffy Ditch in quantity.

(b) Bacteriological Analyses

As noted with the results of chemical analyses, bacteriological results indicate that the flows entering the ditch from the three drain outlets, aggravate an already undesirable condition. Two sources in particular should be noted - the first being a six-inch tile outlet just north of the bridge on Hwy. #8 and the second being the forcemain outlet serving Export Packers. Since the amount of diluting water available is minimal, the Liffy Ditch serves only as an open sewer through the municipality.

IV SUMMARY AND CONCLUSIONS

The Liffy Ditch passing through the Police Village of Dublin is being subjected to gross pollution from several sources. These sources represent both industrial and domestic sewage and no improvement can be expected until such wastes are either disposed of elsewhere or subjected to more effective treatment.

In the case of domestic wastes, every effort should be made by the municipality to ensure that sanitary wastes are disposed of through proper septic tank disposal systems.

In the case of industrial wastes, the lagoon serving Export Packers is providing a fairly adequate effluent. The proposed addition of a second cell should afford even more effective treatment of wastes. In any case, the discharge of effluent to any drain or watercourse should only take place through a proper overflow weir. Accidental discharge through leaks such as presently exist can be avoided by constant vigilance.

V RECOMMENDATIONS

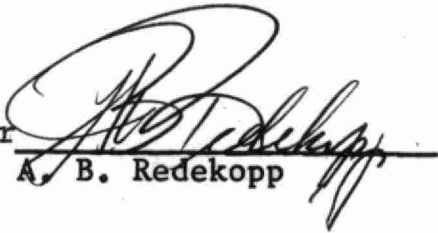
It is recommended that:

1. municipal officials make a conscientious effort to ensure that sanitary wastes do not reach municipal drains.
2. the Export Packers firm be pressed for completion of the second five-acre cell of its lagoon system.

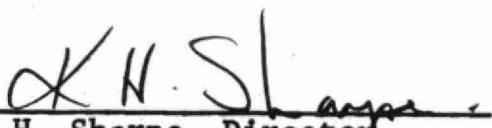
3. the Liffy Ditch should be cleaned at regular intervals to ensure that stagnant conditions do not develop.

All of which is respectfully submitted

District Engineer


A. B. Redekopp

Approved by


K. H. Sharpe, Director

/ct

T A B L E 1LIFFY DITCH AND DRAINS

<u>Sample No.</u>	<u>Description</u>	<u>5-Day BOD</u>	<u>Total</u>	<u>Solids Susp.</u>	<u>Diss.</u>	<u>Coliforms per 100 ml</u>	<u>Estimated Flow</u>
1	Liffy Ditch at bridge on Hwy. #8 - N. Side	4.0	456	42	414	210,000	-
2	Drain outlet to Liffy Ditch - at Hwy. #8 - N. Side	235.0	1250	70	1180	23,000,000	50 GPH
3	Liffy Ditch at first walk bridge - S. of Hwy. #8	3.4	642	48	594	110,000	-
4	New Statton Award Drain outlet - effluent	0.4	552	6	546	25,000	50 GPH
5	Export Packers forcemain outlet - effluent	60	798	200	596	22,000,000	200 GPH
6	Old Statton Award Drain outlet - effluent	28	620	124	496	400,000	500 GPH
7	Liffy Ditch at bridge - S. end of Dublin	21	572	42	530	300,000	-
8	Export Packers lagoon - contents	15	684	142	542	32,000	-

HIGHWAY No. 8

FOOT BRIDGE
No. 1

DUBLIN BRIDGE

LIFFY DITCH

DRY

KRAUSKOPF — BROS.
WEIGH SCALES

FIELD TILE
BED

NEW STATTON
DRAIN

FOOT BRIDGE
No. 2

DUBLIN CREAMERY
POULTRY & PACKERS

FRIEND & WHETHAM
MEAT PACKING PLANT

STATTON
DRAIN

MATILDA ST.

LEGEND

② — SAMPLING POINT

■ — CATCH BASINS

— — STORM & PRIVATE DRAIN OUTLETS

POLICE VILLAGE
OF
DUBLIN

NOT TO SCALE

Date Due

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